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Result
No.
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Maximum DB seq length: 200000000
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                                                                                                                                                                                                                                                                                              Score
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1: /cgm2 6/ptodata/1
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Maximum Match 100%
Listing first 45 summaries
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/cgm2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgm2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgm2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgm2_6/ptodata/1/iaa/B_CTUS_COMB.pep:*
/cgm2_6/ptodata/1/iaa/backfiles1.pep:*
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                           SUMMARIES
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; Sequence 12, Application
; Patent No. 5994511
; GENERAL INFORMATION:
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	82
605	605	605	605	509	605	605	605	625	625	625	625	625	625	625	625	625	625
96.8	96.8	96.8	96.8	96.8	96.8	96.8	96.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	T00.0
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ALIGNMENTS

Lowman, Leonard G. Presta, Paula M. Jardieu, Improved Anti-IgE Antibodies and Method of

John Lowe

US/08887352B

Improving Polypeptides

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ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/887,352B

FILING DATE: 03-Jul-1997

CLASSIFICATION: 530

ATTORNEY/AGENT INFORMATION:

NAME: SYODODA, CTAig G.

REGISTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: P1123
                                                                                                                                           Matches
                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                         TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 114 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
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                 61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                  EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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US-09-109-207C-12
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Best Local Similarity 100.
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APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P1123R1
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SEQ ID NO 12
LENGTH: 114
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SEQ ID NO 12
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                                                                                                                                                   Matches 114;
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No. 62909
                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30 PRIOR APPLICATION NUMBER: US 60/051,554 PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula TITLE OF INVENTION: Improved Anti-IgE Antibodies and FILE REFERENCE: P1123C1r
                                                                                                                                                                                                                                  NAME/KEY: Artificial
LOCATION: 1-114
OTHER INFORMATION: Heavy chain sequence derived from MAE11
                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Artificial
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                   61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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Pred. No. 4.6e-54;
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Method of Improving Polypeptides
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CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 12
LENGTH: 114
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CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 12
LENGTH: 114
                                                                                                                                                                    ; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from US-09-716-028-12
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US-09-920-171-12
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Patent No. 6682735
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended) FILE REFERENCE: P1123C2US
                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Artificial
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                                                                                                                                                                                                                                                          FEATURE:
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EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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Pred. No. 4.6e-54;
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Best Local
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SEQ ID NO 12
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CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C3US
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                               ORGANISM: Artificial Sequence FEATURE:
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                                                                                                                                                                                                                                                                          APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of NUMBER OF SEQUENCES: 26
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS
                             APPLICATION NUMBER: FILING DATE: 03-Ju
                                                                                                                                                                                COUNTRY:
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Pred. No. 4.6e-54;
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RESULT 9
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LENGTH: 229
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Sequence 20, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Henry B. TITLE OF INVENTION: FILE REFERENCE: P11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KEY: Artificial
LOCATION: 1-229
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LENGTH: 229 amino acids
TYPE: Amino Acid
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IVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
NCE: P1123R1
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Pred. No. 1e-53;
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Pred. No. le-53;
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CURRENT APPLICATION NUMBER: US/09/296,005 CURRENT FILING DATE: 1999-04-21 EARLIER APPLICATION NUMBER: US 08/887,352 EARLIER FILING DATE: 1997-07-02

APPLICANT: Henry B. Lowman, Leonard G. Presta, P. TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123Clr

Paula es and

M. Jardieu, John Low Method of Improving

Lowe ing Polypeptides

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; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-229
; OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAB11
US-09-296-005-20
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US-09-920-171-20
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SEQ ID NO 20
LENGTH: 229
                                                                                               Sequence 20, Applicate Patent No. 6723833
GENERAL INFORMATION:
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Best Local Similarity
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SEQ ID NO 20
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Best Local Similarity
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APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving PRILE REFERENCE: PI123R1 CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
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APPLICANT: Lowe, John
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APPLICANT: Presta, Leonard G.
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ORGANISM: Artificial Sequence
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100.0%; Pred. No. 1e-53;
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                                                                                                                                                                                                          OTHER INFORMATION: Heavy chain F(ab) sequence US-10-113-996-20
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                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 20
LENGTH: 229
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NUMBER OF SEQ ID NOS: 44
SEQ ID NO 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 6761889
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Best Local S
                                                                                                                                       Matches
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CURRENT FILLNG DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Improved Anti-IGE Antibodies FILE REFERENCE: P1123C3US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Jardieu, Paula M. APPLICANT: Lowe, John
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FEATURE:
NAME/KBY: Artificial
LOCATION: 1-229
OTHER INFORMATION: Heavy chain F(ab) sequence
                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Artificial Sequence
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                     61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                  EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                                     100.0%; Score 625; DB 4 ilarity 100.0%; Pred. No. 1e-53; Conservative 0; Mismatches
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Pred. No. 1e-53;
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RESULT 13 US-08-887-352B-25

Sequence 25, Application US/08887352B Patent No. 5994511

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GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                             NUMBER OF SEQ ID NOS:
SEQ ID NO 25
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30 PRIOR APPLICATION NUMBER: US 60/051,554 PRIOR FILING DATE: 1997-07-03
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                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: P1123R1
                                                                                                                                                                                                                                                                                                                                               APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. TITLE OF INVENTION: Improved Anti-IgE Antibodies and Me
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INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
                                                                  NAME/KEY: Artificial sequence
LOCATION: 1-233
OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial
                                                                                                                                     FEATURE:
                                                                                                                                                                                           LENGTH:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
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MEDIUM TYPE: 3.5 inch, 1.44 Mb:
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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ATTORNEY/AGENT INFORMATION:
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CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: Improving Polypeptides
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Amino Acid
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Svoboda, Craig G.
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Score 625; DB 3
Pred. No. 1e-53;
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                  DB 3;
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thod of Improving Polypeptide
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US-09-296-005-25
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                                                                                               SEQ ID NO 25
LENGTH: 233
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LENGTH: 233
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Best Local Similarity
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OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11-09-920-171-25
                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
                                                                                                                                                                                                                                                                              APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C2US
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CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
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                                      TYPE: PRT
ORGANISM: Artificial Sequence
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NAME/KEY: Artificial sequence
LOCATION: 1-233
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100.0%; Pred. No. 1e-53;
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es and Method of In
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RESULT 17
US-09-716-028-25
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                                                            CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
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LENGTH: 233
TYPE: PRT
                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
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Sequence 25, App.--
Sequence 25, App.--
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Best Local S
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Patent No. 6723833
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Best Local Similarity
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SEQ ID NO 25
LENGTH: 233
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CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
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                                                                                                                                                                                                                                             TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123C3US
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                                           NUMBER OF SEQ ID NOS: 44
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NAME/KEY: Artificial sequence
LOCATION: 1-233
LOCATION: Heavy chai
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100.0%; Pred. No. 1e-53;
tive 0; Mismatches 0;
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Method of Improving Polypeptide
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Best Local Simi
Matches 114;
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APPLICANT: Henry B.
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/887
FILING DATE: 03-U1-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P112
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 248 amino acid
                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
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                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                       LENGTH: 248 amino acids
TYPE: Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITY: South San Francisco
                                                                                                                                                                                                                                        TOPOLOGY:
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13
                   61 NPSVXGRITISRDDSKNTFYLQNNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                                        1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                       EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                                                                                                                                      Linear
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                                                                                                                                                               100.0%; Score 625; DB 2; 100.0%; Pred. No. 1.1e-53;
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Pred. No. le-53;
; Mismatches 0;
                                                                                                                                                Mismatches
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                                                                                                                                                                                Length 248;
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RESULT 20 US-09-109-207C-22

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RESULT 22
US-09-920-171-22
; Sequence 22, A
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; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sFv sequence derived from MAE11
US-09-296-005-22
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APPLICANT: Henry B. Lowman, Leonard G. Presta, Pa
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C1r
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Sequence 22, Appit
Sequence 22, Appit
No. 6290957
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SEQ ID NO 22
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SEQ ID NO 22
                                                                                                                                                                                                                                         Matches
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Best Local Similarity
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TITLE OF INVENTION: Improved Anti-IgE Ant:
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 198-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
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LOCATION: 1-248
OTHER INFORMATION: sFv sequence derived from MAE11
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ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 248
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                                                                                                                            61 NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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6172213
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   Application US/09920171
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100.0%; Pred. No. 1.1e-53;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                     100.0%; Score 625; DB 3;
100.0%; Pred. No. 1.1e-53;
tive 0; Mismatches 0;
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and Method of Improving Polypeptides
                                                                                                                                                                                                                                                                         Length 248;
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RESULT 23
US-09-716-028-22
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SEQ ID NO 22
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                                                                                                                     Matches 114;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Henry B. Lowman, Leonard G. Presta, Pa
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
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                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
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PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
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ORGANISM: Artificial
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                                                                                                                                                                                                                      NAME/KEY: Artificial
LOCATION: 1-248
OTHER INFORMATION: SFV sequence derived from MAEll
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                                                                                                                                       Match 100.0%;
Local Similarity 100.0%;
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61 NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                                    Score 625; DB 4;
Pred. No. 1.1e-53;
                                                                                                                   Mismatches
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RESULT 24 US-10-113-996-22

Sequence 22, Applica Patent No. 6761889 GENERAL INFORMATION:

Application US/10113996

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; OTHER INFORMATION: sFv sequence derived from MAE11 US-10-113-996-22
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FILE REFERENCE: P1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR FILING DATE: 1997-07-02
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR PRIOR FILING DATE: 2001-08-01
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Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Pres
TITLE OF INVENTION: Improved Anti-IgE Antil
TITLE OF INVENTION: Improving Polypeptides
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Best Local Similarity
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APPLICANT: Presta, Leonard
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIPICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 91,044
REFERENCE/DOCKET NUMBER: P1123
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 44
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APPLICANT: Lowe, John
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                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                           OPERATING SYSTEM: PC-DOS/MS-DO SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                          STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
EILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: SYODOGIA, CTaig G.
REGISTRATION NUMBER: 39,044
REGISTRATION NUMBER: 39,044
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of NUMBER OF SEQUENCES: 26
                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 451 amino acid
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CITY: South San Francisco
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NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                    EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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Pred. No. 2.2e-53;
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US-08-466-151-65
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GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Henry B.
TITLE OF INVENTION:
                                                   Sequence 14, Application US/09109207C Patent No. 6172213
                                                                                                                                                                                                                                                                                               Matches
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APPLICANT: Presta, Leonard G.
TITLE OF INVENTION: Immunoglobulin Variants
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 07-MAY-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/7:
FILING DATE: 14-AUG-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: PO
TELECOMMUNICATION INFORMATION:
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CURRENT APPLICATION DATA:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Grand
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Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
Improved Anti-IgE Antibodies and Method of Improving Polypeptide
                                                                                                                                                                                                                                                                                                                100.0%; Score 625; DB 3; 100.0%; Pred. No. 2.2e-53;
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CURRENT APPLICATION NUMBER: US/09/109,207C; CURRENT FILING DATE: 1998-06-30; PRIOR APPLICATION NUMBER: US 60/051,554; PRIOR FILING DATE: 1997-07-03; NUMBER OF SEQ ID NOS: 44; SEQ ID NO 14; LENGTH: 14
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                                                                                                        US-09-296-005-14
                                                                                                                          RESULT 30
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                                                   Sequence 14, Applicate Patent No. 6290957
GENERAL INFORMATION:
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Best Local 9
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MEPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Henry B. Lowman, Leonard G. Presta, TITLE OF INVENTION: Improved Anti-IgE Antibodia FILE REFERENCE: p1123R1
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                                                                                        Application
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                                                                                        US/09296005
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Pred. No. 2.2e-53;
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; Sequence 14, Application US/099; Patent No. 6682735; GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
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US-09-296-005-16
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CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 14
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SEQ ID NO 16
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Patent No. 6290957
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Best Local Similarity
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Best Local (
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NAME/KEY: Artificial
LOCATION: 1-451
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ORGANISM: Artificial
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Similarity 100.0%;
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                                                                                                   Application US/09920171
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No. 2.2e-53;
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CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 14
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Best Local :
                                                                                                                                                 Matches
                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 16
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                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
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ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                     61 NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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Pred. No. 2.2e-53;
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US-09-716-028-14

Sequence 14, Application US/09716028 Patent No. 6723833

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US-09-716-028-16
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SEQ ID NO 14
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SEQ ID NO 16
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Patent No. 6723833
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Best Local :
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CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
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PRIOR FILING DATE: 1998-06-30
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
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OTHER INFORMATION: Heavy chain sequence derived from MAB11
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ORGANISM: Artificial
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Pred. No. 2.2e-53;
, Mismatches 0;
                                                                                                                                                                      Score 625; DB 4;
Pred. No. 2.2e-53;
                                                                                                                                                      Mismatches
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Method of Improving Polypeptide
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RESULT 36

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RESULT 37
US-10-113-996-16
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US-10-113-996-14
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                                                                                 US-10-113-996-16
                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR PRIOR PRIOR PRIOR OF US 00/98-01
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APPLICANT: Lowman, Henry B.

APPLICANT: Presta, Leonard G.

APPLICANT: Jardieu, Paula M.

APPLICANT: Lowe, John
                     Query Match
Best Local Similarity
                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 44
SEQ ID NO 16
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Matches 114;
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CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
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APPLICANT: Presta, Leonard
APPLICANT: Jardieu, Paula
                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123C3US
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Jardieu, Paula M.
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ALIGNMENTS

Variable heavy chain; IGB; antibody; anti-IGB; reduction; prevention; histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria. 08-JUN-1999 AAW95657; AAW95657 standard; protein; 02-JUL-1997; 30-JUN-1998; 14-JAN-1999 Mus musculus. Mus musculus anti-IgE e25, WO9901556-A2 (GETH) GENENTECH INC. (first entry) 97US-00887352 98WO-US013410 e26 & e426 variable heavy chain. 114 ₽

Lowman HB, Presta LG, Jardieu PM, Lowe 덕

WPI; 1999-106057/09.

Improving affinity of polypeptides, particularly anti-IgE antibodies identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity against against the γď

Disclosure; Page 91; 129pp; English.

The sequence is that of the variable heavy chain of e25, e26 and e426. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and unticaria. The antibodies can also be used for affinity purification, Ιt

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                                                    CC to a process comprising, a) identifying aspartyl residues prone to CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) CC substituting alternative residues to create candidate molecules, and c) CC selecting those candidate molecules which display affinity against the CC target molecule. Use of the antibody results in antiasthmatic; CC antiallergic; ophthalmological; dermatological and antiinflammatory CC activity. The antibodies are useful for treating IgE-mediated disorders CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and CC food allergies. The mutant antibodies produced by the above mentioned CC nucleic acids may also be used as affinity purification agents and in CC diagnostic assays for detecting the expression of an antigen of interest CC AAB76560 represent ragments of anti-IgE antibodies of the invention. CC Polynucleotide sequence AAF69253 represents an expression plasmid used in CC the course of the invention, and oligonucleotides AAF69271 are CC used in the generation of affinity improved anti-IgE antibodies
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Best Local
                                                    immunosuppressive agent. The composition is useful for treating IgR-mediated disorders. The disorders include atopic alregized with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgB antibody variable heavy chain domain (VH).
                                                                                                                                                                                                                                                                                                                                    New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
  Sequence
                                                                                                                                                                                               The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-1997;
30-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-IgE antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Anti-IgE antibody e25, e26 and e426 variable heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUL-2004
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                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 12; 89pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-NOV-2000; 2000US-00716028
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HB,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atopic allergy; anaphylactic hypersensitivity; asthma; rhinitis; conjunctivitis; eczema; urticaria; food allergy; heavy chain domain; VH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97US-0051554P
98US-00109207
                                                                                                                                                                  binding fragment in combination with an adjunct ve agent. The composition is useful for treating IgE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /label= CDR-H3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'label= CDR-H2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immunosuppressive agent; IgE-mediated disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein; 114
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Pred. No. 6.2e-50;
Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lowe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                    g fragment,
asthma,
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Query Match Matches 114; Best Local Similarity

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Mismatches

100.0%; Score 625; DB 8; 100.0%; Pred. No. 6.2e-50;

Length 114;

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                                                                                                                                   Query Match
Best Local (
                                                                                                                       Matches
                                                                                                                                                                                                                                         The sequence is that of the variable heavy Fab fragment of e26. It was used as part of a method to improve the affinity of anti-IgB antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgB mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgB such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Variable heavy chain; Fab fragment; antibody; anti-IgB; reduction; histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria; IgB; prevention.
                                                                                                                                                                                                           atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay feveczema, anaphylactic shock and urticaria. The antibodies can also for affinity purification, detection and diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                  Improving affinity of polypeptides, particularly anti-IgE antibodies - by identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity against the
                                                                                                                                                                                  Sequence 229
                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 100-101; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-106057/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUL-1997;
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                                                                                                                                    Similarity
                     NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                             EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                       Conservative
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                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e26 variable heavy chain Fab fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jardieu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            229
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                                                                                                                    Score 625; DB 2;
Pred. No. 1.4e-49;
; Mismatches 0;
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                                                                                                                                                 Length 229;
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RESULT 5 AAB76954

RESULT 6
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standard; protein; 229

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                                                                                                                                                                                                                                       This invention relates to a nucleotide sequence encoding an antibody with CC improved anti-IgE antibody activity. The antibody has improved action due CC to a process comprising, a) identifying aspartyl residues prone to CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) CC substituting alternative residues to create candidate molecules, and c) CC selecting those candidate molecules which display affinity against the CC target molecule. Use of the antibody results in antiasthmatic; CC antiallergic; ophthalmological, dermatological and antiinflammatory CC activity. The antibodies are useful for treating IgE-mediated disorders CC such as asthma, allergic rolinitis, conjunctivits, czzema, urticaria and CC food allergies. The mutant antibodies produced by the above mentioned CC mucleic acids may also be used as affinity purification agents and in CC diagnostic assays for detecting the expression of an antigen of interest CC in specific cell, tissues or serum. Amino acid sequences AAB76936-CC AAB76960 represent fragments of anti-IgE antibodies of the invention. CC CAAB76960 represent fragments of anti-IgE antibodies of the invention. CC used in the generation of affinity improved anti-IgE antibodies
                                                                                                                                          Matches
                                                                                                                                                       Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          maturation with phage display.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
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                                                                                                                                     114;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HB,
                                                                                                                                                       Similarity
                NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                       EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                             229 AA;
NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                  EVOLVESGGGLVOPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fig 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-0051554P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87pp; English.
                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jardieu
                                                                                                                                       <u>,</u>
                                                                                                                                                       Score 625; DB 4;
Pred. No. 1.4e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lowe
                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                        Length 229;
                                                                                                                                         Indels
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 114
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 114
                                                                                  Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain (VH) Fab fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; variable heavy chain; VH.
                                                                                                                                                                                              F(ab)-phage p426 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US6723833-B1
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                                  Unidentified
                                                                                                                                                                                                                                                                                                                                                                 ADN07067 standard; protein; 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2004-326922/30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADN07041;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GETH ) GENENTECH INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Æ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-0051554P
98US-00109207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO 20;
                                                                                                                                                                                                                                                       entry)
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                                                                                                                                                                                              encoded
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                                                                                                                                                                                              anti-IgE antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 625; DB 8;
Pred. No. 1.4e-49;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fragment
                                                                                                                                                                                                 e5 heavy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               229;
                                                                                                                                                                                                 chain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g fragment, asthma,
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                                                                                     p426
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is a F(ab)-phage p426 DNA encoded anti-IgE antibody e5 hu chain. This sequence is used in the exemplification of the invent:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
                                      02-JUL-1997;
                                                              30-JUN-1998;
                                                                                                                                            Mus musculus
                                                                                                                                                                    eczema; anaphylactic shock; urticaria; F(ab)'2
                                                                                                                                                                              histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay
                                                                                                                                                                                                                                  Mus musculus anti-IgE e26 variable heavy chain F(ab)'2 fragment.
                                                                                                                                                                                                                                                            08-JUN-1999
                                                                                                                                                                                                                                                                                                               AAW95670 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 229 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antibody or IGE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IGE mediated disorders. The disorders include atopic allergy associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-NOV-2000; 2000US-00716028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US6723833-B1
                                                                                         14-JAN-1999
                                                                                                                                                                                                        Variable heavy chain; IgE; antibody; anti-IgE; reduction;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114;
                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Fig 10B-10C; 89pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADN07022
                                                                                                                                                                                                                                                                                                                                                                                                                             EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                            NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                   NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  relates to therapeutic compositions comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97US-0051554P
98US-00109207
                                         97US-00887352
                                                                 98WO-US013410
                                                                                                                                                                                                                                                                                                             protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Jardieu
                                                                                                                                                                                                                                                                                                               233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 625; DB 8;
Pred. No. 1.4e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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                                                                                                                                                                                                          prevention;
                                                                                                                                                                                  hay fever;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  anti-IgE
                                                                                                                                                                                                                                                                                                                                                                             114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       heavy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                asthma,
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The sequence is that of the variable heavy chain F(ab)'2 fragment of e26. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and
                                                New nucleic acid encoding anti-immunoglobulin E antibody with improve properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinit
                                                                                                                                                                                                                                              09-JAN-2001.
                                                                                                                                                                                                                                                                                                      Synthetic
                                                                                                                                                                                                                                                                                                                                            Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
                                                                                                                                                                                                                                                                                                                                                                                                                   17-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB76959;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB76959 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Improving affinity of polypeptides, particularly anti-IgE antibodies identifying aspartyl residues which undergo isomerisation and
                                                                                                        WPI; 2001-122353/13
                                                                                                                                                                                                                   30-JUN-1998;
                                                                                                                                                                                                                                                                          US6172213-B1.
                                                                                                                                                                                                                                                                                                                                conjunctivitis;
                                                                                                                                                                                                                                                                                                                                                                                     Variable heavy chain F(ab)'2 fragment of e26 SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             substituting
                                                                                                                                    Lowman
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         114;
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                                                                                                                                   , aH
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                                                                                                                                                              GENENTECH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY 60
                                     with
                                                                                                                                   Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Page 105; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alternative
                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                          97US-0051554P
                                                                                                                                                                                                                   98US-00109207
                                                                                                                                                                                                                                                                                                                                y; Ig E; immunoglobu
eczema; urticaria;
                                    phage display.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                   Jardieu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Jardieu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           residues and screening for affinity against the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 625; DB 2;
Pred. No. 1.4e-49;
; Mismatches 0;
                                                                                                                                   PΜ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PM,
                                                                                                                                                                                                                                                                                                                                food allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lowe
                                                                                                                                   Lowe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç
                                                              E antibody with improved residues in unimproved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        114
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Disclosure; Fig 15; 87pp; English

invention

relates

to therapeutic compositions comprising anti-IgB

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RESULT 10
ADN07046
ID ADN07046
ID ADN077
XX ADN07
XX ANTi-
XX ANTi-
XX ANTi-
XX ANTi-
XX ANTi-
XX ANTi-
XX Unide
XX Claim
XX Claim
XX Claim
XX Claim
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CC improved anti-1gB antibody activity. The antibody has improved action due CC to a process comprising, a) identifying aspartyl residues prone to CC isomerisation in unimproved anti-1gB (immunoglobulin B) antibody; b) CC substituting alternative residues to create candidate molecules, and c) CC selecting those candidate molecules which display affinity against the CC target molecule. Use of the antibody results in antiasthmatic; CC antiallergic; ophthalmological; dermatological and antiinflammatory CC cartivity. The antibodies are useful for treating 1gB-mediated disorders couch as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and CC food allergies. The mutant antibodies produced by the above mentioned CC nucleic acids may also be used as affinity purification agents and in CC diagnostic assays for detecting the expression of an antigen of interest CC AAB76960 represent fragments of anti-1gB antibodies of the invention. CC CAB76960 represent fragments of anti-1gB antibodies of the invention. CC used in the generation of affinity improved anti-1gB antibodies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                      New composition of an improved anti-IgE antibody or IgE useful for treating IgE-mediated diseases, e.g. atopic a conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     therapy; atopic allergy; anaphylactic allergic rhinitis; conjunctivitis; ecvariable heavy chain; VH.
                                       Claim
                                                                                                                                                                                                                                                              02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUL-2004
                                                                                                                                                                                     Lowman
                                                                                                                                                                                                                                                                                                                  17-NOV-2000; 2000US-00716028
                                                                                                                                                                                                                                                                                                                                                                                             US6723833-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                  Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anti-IgE antibody e26 variable heavy (VH) F(ab)'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADN07046 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE antibody activity. The antibody has improved action due
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                  2004-326922/30.
                                       7;
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                                                                                                                                                                                                                          GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                                                   Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                            97US-0051554P.
98US-00109207.
                                     NO 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                 89pp; English
                                                                                                                                                                                       Jardieu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 625; DB 4;
Pred. No. 1.4e-49;
                                                                                                                                                                                       PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          eczema;
                                                                                                                                                                                       Lowe
                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          urticaria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                             binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      allergy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114
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RESULT 11
AAW95667
ID AAW95667
XX AAW95667
XX AAW95667
XX AAW95
XX AAW95
XX AAW95
XX AAW95
XX BFV
XX BFV
XX BFV
XX BFV
XX ABST
XX WO9
XX ABST
XX WO9
XX ABST
XX WO9
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XX WO9
XX ABST
XX 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The discreter include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain (VH) F(ab), 2
                                                                                              The sequence is that of the e26 sFv fragment. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08-JUN-1999
                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 102-103; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          substituting alternative residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Improving affinity of polypeptides, particularly anti-IgE antibodies - identifying aspartyl residues which undergo isomerisation and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-106057/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9901556-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sFv_fragment; IgE; antibody; anti-IgE; reduction; prevention; histamine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus anti-IgE e26 sFv fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW95667 standard; protein;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        114;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ,
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                                                                purification,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĀΑ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-00887352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98WO-US013410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                   detection and diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jardieu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248
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Pred. No. 1.4e-49;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Md
                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lowe
                                                                                                                                                                                                                                                                                                                                                                                                                                                          screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                       for affinity against the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 233;
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Query Match

100.0%;

Score

625;

DB 2

Length

Query Match Best Local Sin Matches 114;

Similarity

100.0%;

Score 625; DB 4; Pred. No. 1.5e-49;

Length 248;

0

Gaps

0

Conservative

0;

Mismatches

Sequence

248

ΑA;

Sequence

248

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RESULT 12
AAB76956
ID AAB76
XX AAB76
XX AAB76
XX AATTA
AX AAB76
XX AATTA
AX AATTA
AA
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                                                     CC This invention relates to a nucleotide sequence encoding an antibody with CC improved anti-IgE antibody activity. The antibody has improved action due CC to a process comprising, a) identifying aspartyl residues prone to CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) CC substituting alternative residues to create candidate molecules, and c) CC selecting those candidate molecules which display affinity against the CC target molecule. Use of the antibody results in antiasthmatic; CC antiallergic; ophthalmological; dermatological and antiinflammatory CC activity. The antibodies are useful for treating IgE-mediated disorders CC such as asthma, allergic rhinitis, conjunctivitis, ezzema, urticaria and CC food allergies. The mutant antibodies produced by the above mentioned CC mucleic acids may also be used as affinity purification agents and in CC diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936-CC AAB76960 represent fragments of anti-IgE antibodies of the invention. CC polynucleotide sequence AAB769253 represents an expression plasmid used in the course of the invention, and oligomucleotides AAF69271 are used in the generation of affinity improved anti-IgE antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        maturation with phage display.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-122353/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     conjunctivitis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB76956 standard; protein; 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lowman HB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US6172213-B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Antibody; antiasthmatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          114; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fig 14; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-0051554P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-00109207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sthmatic; antiallergic; ophthalmological; dermatological;
y; Ig E; immunoglobulin E; asthma; allergic rhinitis;
eczema; urticaria; food allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jardieu PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.5e-49;
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RESULT 13
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RESULT 14
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                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody sFv fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anti-IgE antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-NOV-2000; 2000US-00716028
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH
                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention relates to therapeutic compositions comprising anti-IgE
                                                                                                                                                                                                                                                                                                                                                            114;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _
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                                                                                                                                                                    NPSVKGRITISRDDSKNTFYLØMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                                                                                       NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                     EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ID NO 22; 89pp; English.
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98US-00109207.
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                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                       Score 625; DB 8;
Pred. No. 1.5e-49;
Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                   248;
                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                       114
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AAW95659 standard; protein; 451

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RESULT 15
AAW95661
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequence is that of thefull length heavy chain of e25. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for efficiency asthmatic actually as the entibodies can also be used for efficiency.
Heavy chain; IgB; antibody; anti-IgB; reduction; prevention; histami. production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histami. production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergi rthinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria.
                                                                                                                                                           AAW95661
                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 451 AA;
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                                                                                                                                 AAW95661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Improving affinity of polypeptides, identifying aspartyl residues which substituting alternative residues ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14-JAN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                      for affinity purification, detection and diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 target.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-106057/09.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lowman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9901556-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus anti-IgE e25 full length variable heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                   114;
                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HB,
                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                           standard;
                                                                                                                                                                                                                                                    NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                           EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                                                                                                                                                  NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                           EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY
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                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                               Score 625; DB 2;
Pred. No. 2.9e-49;
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and screening for affinity against
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Best Local S
Matches 114
  14-AUG-1992;
26-JAN-1994;
15-MAR-1995;
                                                                                                                                                                                                                                                                                                                                 Immunoglobulin B; IgE; anti-human IgE; bispecific antibody; FCEL; FCEH; low affinity binding receptor; high affinity binding receptor; allergy; diagnosis; treatment; histamine release; heavy chain; prevent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The sequence is that of the full length heavy chain of e26. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e36 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Improving affinity of polypeptides, identifying aspartyl residues which substituting alternative residues ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9901556-A2
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95US-00405617.
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Pred. No. 2.9e-49;
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ch undergo isomerisation and
and screening for affinity against th
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CC anti-human immunoglobulin E (IgE) antibody. The invention relates to a CC bispecific antibody that binds specifically to IgE when IgE is bound to its low affinity receptor (FCEL), but does not bind to IgE, when IgE is CC bound to its high affinity receptor (FCEH). The bispecific antibody CC comprises an IgE-binding arm with human framework residues of a recipient CC human antibody and donor murine CDR (complementarity determining region) CC residues, but with at least one human CDR residue replacing the analogous CC murine residue. The antibody also comprises an FV that is specific for a CC predetermined antigen other than IgE. The antibodies work by displacing CC bound IgE from its receptor, or via competitive inhibition of its CC binding. The bispecific antibodies are used for diagnosis, treatment and CC prevention of allergy and other IgE-mediated diseases, also, when CC immobilised, for the isolation of FCEL from cells (for research or CC therapy). The bispecific antibodies of the invention do not cause CC granulation or release of histamine from mast cells
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                                                                                         12-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 15;
                                                                                                                                                        11-JUL-2000; 2000WO-US018841
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                                                                                                                                                                                                                                                                                          WO200104306-A1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                chain; heavy chain; anti-IgE antibody; E26; transfection; fluorescent protein; GFP; promoter; expression.
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(first entry)
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Pred. No. 2.9e-49;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel polynucleotide construct for screening and obtaining cells expressing high levels of desired protein, comprises amplifiable selectable gene, fluorescent protein gene and sequence encoding of the sequence of the seque
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure;
New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved
                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-JAN-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Full length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-APR-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      on 11-SEP-2003 to standardise OS field)
                                                                                                                              WPI; 2001-122353/13.
                                                                                                                                                                                                                                                                                                (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                          02-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US6172213-B1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  heavy chain sequence of e25 SEQ ID 14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                         Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Crowley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-00109207.
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Pred. No. 2.9e-49;
; Mismatches 0;
                                                                                                                                                                                                             ΡM
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immunoglobulin {\tt E} prone to isomerization by other residues by affinity maturation with phage display.
                                                                                    English
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cc improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to comprisation in unimproved anti-IgE (immunoglobulin E) antibody; b) cc substituting alternative residues to create candidate molecules, and c) cc selecting those candidate molecules which display affinity against the cc target molecule. Use of the antibody results in antiasthmatic; cc antiallergic; ophthalmological; dermatological and antiinflammatory cc activity. The antibodies are useful for treating IgE-mediated disorders cuch as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and concentration as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and concentration assays for detecting the expression of an antigen of interest conspectic assays for detecting the expression of an antigen of interest conspectic cell, tissues or serum. Amino acid sequences AAB76936-cc AAB76960 represent fragments of anti-IgE antibodies of the invention. Cc the course of the invention, and oligonucleotides AAP69271 are used in the generation of affinity improved anti-IgE antibodies Sequence 451 AA; This invention relates to a nucleotide sequence encoding an antibody with

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                                                                                                Matches 114; Conservative
                                                                                                                         Query Match
61
                         61
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                                                                                                               Similarity
                  NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                        EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASITYDGSTNY 60
NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSMNWIRQAPGKGLEWVASITYDGSTNY
                                                                                                              100.0%;
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                                                                                                               Score
Pred.
                                                                                                   Mismatches
                                                                                                              625; DB 4;
No. 2.9e-49;
                                                                                                                           Length 451;
                                                                                                   Indels
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 114
                         114
                                                                                                  Gaps
                                                  60
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RESULT 19
AAB76950
                           17-APR-2001
                                                                            AAB76950 standard; protein; 451
heavy chain
                          (first entry)
sequence of e26 SEQ ID
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antiinflammatory; Ig E; immunoglobulin |
conjunctivitis; eczema; urticaria; food Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; E; asthma; d allergy.

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US6172213-B1
09-JAN-2001
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30-JUN-1998;

98US-00109207

Lowman (GETH) GENENTECH INC HB, Presta LG, 97US-0051554P Jardieu PM, Lowe

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New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity maturation with phage display.

Claim

2; Fig

12; 87pp;

English

invention relates

to a nucleotide sequence encoding an antibody with

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Best Local S
Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic; antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936.
                New composition of an improved anti-IgE antibody or IgE binding fragment, useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma, conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                            Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; variable heavy chain; VH.
                                                                                                                                                                                02-JUL-1997;
30-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Polynucleotide sequence AAF69253 represents an expression plasmid used in the course of the invention, and oligonucleotides AAF69254 - AAF69271 are used in the generation of affinity improved anti-IgE antibodies
                                                                                                                  Lowman
                                                                                                                                                                                                                                17-NOV-2000; 2000US-00716028
                                                                                                                                                                                                                                                                 20-APR-2004.
                                                                                                                                                                                                                                                                                                US6723833-B1
                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                            Anti-IgE antibody e26 full length variable light chain (VH).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADN07037 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 451
                                                                                                                                                  (GETH ) GENENTECH
                                                                                  2004-326922/30
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                                                                                                                Presta LG,
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98US-00109207.
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                                                                                                                  Jardieu
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Pred. No. 2.9e-49;
; Mismatches 0;
                                                                                                                  PM,
                                                                                                                  Lowe
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mediated disorders. The disorders include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain domain (VH).

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RESULT 21
ADNO7035
ID ADNO7035
XX ADNO7035
AC ADNO7
AC ADNO7
XX Anti-
XX Anti-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anti-IgB antibody; immunosuppressive agent; IgB-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy
                                                                                                                                        The invention relates to therapeutic compositions comprising ant antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating mediated disorders. The disorders include atopic allergy associa
                                                                                                                                                                                                                                                                                    Disclosure;
                                                                                                                                                                                                                                                                                                                                        conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                               New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2004-326922/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-1997;
30-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     allergic rhinitis; cor variable heavy chain;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lowman HB,
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                                                                                                                                                                                                                                                                                 SEQ ID NO 14; 89pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Presta LG,
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98US-00109207
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Pred. No. 2.9e-49;
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The present invention describes a method for producing an antibody or cantigen binding fragment in high yield in a cell culture. The method comprises expressing a variable domain of the antibody or antigen binding fragment comprising a modified framework region (FR) in a host cell, and recovering the antibody or antigen binding fragment variable domain comprising the modified framework from the host cell. The modified FR in the method described above has a substitution of at least one amino acid is the method above has a substitution of at least one amino acid is the amino acid found at the corresponding FR position of a human subgroup cariable domain consensus sequence that has a hypervariable region 1 (HVR1) and/or HVR2 amino acid sequence with the most sequence identity with a corresponding HVR1 and/or HVR2 sequence of the variable domain. The antibody or antigen binding fragment variable domain comprises the modified FR that has improved yield in cell culture compared to an commodified antibody or antigen-binding fragment. The antibody and antigen binding fragment have cytostatic, antinflammatory, antiangiogenic and commonodulatory activities, and can be used in antibody therapy. The methods and compositions of the present invention are useful for methods antibodies or antigen binding fragments in cell culture, in
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Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Producing an antibody or antigen binding culture, comprises expressing a variable region in a host cell.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 3;
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                                                                                                                                                                                                                                          Sequence 474 AA;
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                    61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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US-08-887-3528-21
US-09-109-207C-21
US-09-20-107-21
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US-09-20-171-25
US-09-109-207C-26
US-09-109-207C-26
US-09-109-207C-26
US-09-113-996-26
US-09-116-028-23
US-08-887-3528-23
US-09-206-005-23
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US-09-109-207C-11
US-09-296-005-11
US-09-920-171-11
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US-08-887-352B-11

RESULT 1

ALIGNMENTS

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US-08-887-352B-11
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                                       Query Match
                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Henry B.
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 114 amino acids
                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: SVODOdA, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P11
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COMPUTER READABLE FORM:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                TYPE: Amino Acid
TOPOLOGY: Linear
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h 100.0%; Score 623; DB 2; Similarity 100.0%; Pred. No. 1.1e-54; 14; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Francisco
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NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG

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Gaps

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EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY

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APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula
TITLE OF INVENTION: Improved Anti-IgE Antibodies and
FILE REFERENCE: P1123Clr
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
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Best Local Similarity 100.
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 11
LENGTH: 114
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                                                                                                                                       Matches
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                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Henry B. Lowman, Leonard G. Presta, P. TITLE OF INVENTION: Improved Anti-IgE Antibodies
                                                                                                                                                                                                                      NAME/KEY: Artificial
LOCATION: 1-114
OTHER INFORMATION: Heavy chain sequence derived from MAE11
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ORGANISM: Artificial
FEATURE:
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ORGANISM: Artificial
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LOCATION: 1-114
COTHER INFORMATION: Heavy chain sequence derived from MAE11
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                  NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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100.0%; Pred. No. 1.1e-54;
tive 0; Mismatches 0;
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Method of Improving
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CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR ETILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 11
LENGTH: 114
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Best Local S
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SEQ ID NO 11
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FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILLING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR PILING DATE: 1997-07-02
PRIOR PILING DATE: 1997-07-02
PRIOR PILING DATE: 1999-04-21
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
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ORGANISM: Artificial
FEATURE:
                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                                                   FEATURE:
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                                                                                                                                                                                   OTHER INFORMATION: Heavy chain sequence derived from MAE11
                                                                                                                                                                                                           NAME/KEY: Artificial LOCATION: 1-114
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                                                                                                  Score 623; DB 4;
Pred. No. 1.1e-54;
                                                                                 Mismatches
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US-10-113-996-11
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PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                Sequence 21, Application US/08887352B
Patent No. 5994511
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu,
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
TITLE OF INVENTION: Improving Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 11, Application US/10113996 Patent No. 6761889
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Best Local
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CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
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APPLICANT: Presta, Leonard
APPLICANT: Jardieu, Paula
APPLICANT: Lowe, John
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PRIOR FILING DATE: 1999-04-21
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                                   COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION UNMBER: US/08/887,352B
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
CLASSIFICATION: 530
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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                      ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                         STREET: 1 DNA Way
CITY: South San Francisco
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Svoboda, Craig G.
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Jardieu, Paula M.
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Pred. No. 1.1e-54;
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RESULT 9
US-09-296-005-21
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                                                     Sequence 21, Application US/09296005 Patent No. 6290957 GENERAL INFORMATION:
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LENGTH: 229
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Best Local Similarity 100.0%;
Matches 114; Conservative C
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APPLICANT: Henry B. Lowman, I TITLE OF INVENTION: Improved FILE REFERENCE: P1123C1r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Henry B. Lowman, Leonard G. Presta, TITLE OF INVENTION: Improved Anti-IgE Antibodi-FILE REFERENCE: P1123R1
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS:
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TELEPHONE: 650/225-1489
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[ON: Improved Anti-IgB Antibodies and Method of Improving Polypeptide
P1123R1
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                  Leonard G. Presta, Pa
d Anti-IgE Antibodies
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Pred. No. 2.4e-54;
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CURRENT APPLICATION NUMBER: US/09/296,005 CURRENT FILING DATE: 1999-04-21 EARLIER APPLICATION NUMBER: US 08/887,352

EARLIER FILING DATE:

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SEQ ID NO 21
LENGTH: 229
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
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Best Local Similarity
Matches 114; Conserva
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Sequence 21, App
Sequence 21, App
No. 66827
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LENGTH: 229
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PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
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CURRENT FILING DATE: 2001-08-01
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C2US
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APPLICANT: Presta, Leonard G
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
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                                                                                                                                                                                                                                                                                                                                                                                   Score 623; DB 4; Pred. No. 2.4e-54; Pred. No. 2.4e-54;
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C3US
CURRENT APPLICATION UNMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,717
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 2001-08-01
UNMBER OF SEQ ID NOS: 44
RESULT 13
US-08-887-352B-26
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                                                                                                                                                                                                                                                                                     , OTHER INFORMATION: Heavy chain F(ab) derived from MAE11 US-10-113-996-21
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US-10-113-996-21
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                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 21
LENGTH: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard
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Patent No. 6761889
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SEQ ID NO 21
                                                                                                                                                                                                                  Matches
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PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: 1-229
OTHER INFORMATION: Heavy chain F(ab) derived from MAE11
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                                                                         61
                                                                                              61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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                                                                        NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                              EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
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Jardieu, Paula M.
Lowe, John
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100.0%; Pred. No. 2.4e-54;
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Pred. No. 2.4e-54;
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                                                                                                                                                                                                                                                  Length 229;
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Sequence 26, Application US/08887352B Patent No. 5994511

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; FEATURE:

; NAME/KEY: Artificial

; LOCATION: 1-233

; OTHER INFORMATION: Heavy chain F(ab)'2

US-09-109-207C-26
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                                                                                                                                                                              NUMBER OF SEQ ID NOS:
SEQ ID NO 26
LENGTH: 233
TYPE: PRT
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 26, Application US/09109207C Patent No. 6172213
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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Best Local Similarity
                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30 PRIOR APPLICATION NUMBER: US 60/051,554 PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                           APPLICANT: Henry B. Lowman, Leonard G. Presta, P. TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123R1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08,
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY AGENT INFORMATION:
NAME: Svoboda, Craiq G
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TITLE OF INVENTION: I
TITLE OF INVENTION: I
NUMBER OF SEQUENCES:
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                                                                                                                                                             ORGANISM: Artificial
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MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Genentech, Inc. STREET: 1 DNA Way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: Amino Acid
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California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe Improved Anti-IgE Antibodies and Method of
    100.0%;
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    Score
Pred.
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    623; DB 3;
No. 2.4e-54;
                                                                                 sequence derived from MAE11
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es and Method of Improving Polypeptide
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; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MABI1
US-09-920-171-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 26
LENGTH: 233
                                                                                                                         NUMBER OF SEQ
SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No. 6682735
GENERAL INFORMATION:
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                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lowman, Henry B. APPLICANT: Presta, Leonard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EARLIER APPLICATION NUMBER: US 08/887,352 EARLIER FILING DATE: 1997-07-02
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TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended) FILE REFERENCE: P1123C2US
                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
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NAME/KEY: Artificial
LOCATION: 1-233
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ORGANISM: Artificial
                                       FEATURE:
                                                         TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                   ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
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Jardieu, Paula M.
                                                                                                                                                                                                                                                                                                                                     Lowe, John
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                                                                                                                                               ID NOS:
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100.0%; Pred. No. 2.4e-54;
/ative 0; Mismatches 0;
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
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US-09-716-028-26
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US-09-716-028-26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Best Local Similarity
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LENGTH: 233
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Best Local
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CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Henry B. Lowman, Leonard G. Presta, PaTITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123R1
                                                                                                                                                                                                                                                               APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
NUMBER OF SEQ ID NOS: 44
EQ ID NO 26
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NAME/KEY: Artificial
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Method of Improving Polypeptide
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GENERAL INFORMATION:
                                                                                                                                        Matches 114;
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Best Local Similarity
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Best Local (
                                                                                                                                                                                                                                                                                                    TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US/08/887
FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 248 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
COPPUTER: Windle PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                LENGTH: 248 amino acids
TYPE: Amino Acid
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                      61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
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NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                          Conservative
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Improved Anti-IgE Antibodies
Improving Polypeptides
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                                                                                                                                                         Score 623; DB 2;
Pred. No. 2.6e-54;
                                                                                                                                          Mismatches
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RESULT 20 US-09-109-207C-23

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FILE REFERENCE: P1123Ri
CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT APPLICATION NUMBER: US 60/051,554
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
LENGTH: 7.^
               RESULT 22
US-09-920-171-23
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US-09-296-005-23
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                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1125CIr
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER APPLICATION NUMBER: US 08/887,352
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 23
Sequence 23, Application US/09920171
                                                                                                                                                                                                                Matches 114; Conservative
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                                                                                                                                                                                                                                                                                           NAME/KEY: Artificial
LOCATION: 1-248
OTHER INFORMATION: sFv sequence derived from MAE11
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LOCATION: 1-248
OTHER INFORMATION: SFV sequence derived from MAELL
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TYPE: PRT
ORGANISM: Artificial
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                                                                                                                                                                                                                                  Local Similarity
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Pred. No. 2.6e-54;
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Pred. No. 2.6e-54;
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CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 23
LENGTH: 248
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                                                                                                                                        Matches
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Best Local
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CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
RUMBER OF SEQ ID NOS: 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula TITLE OF INVENTION: Improved Anti-IgE Antibodies and FILE REFERENCE: P1123R1
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                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                                         FEATURE:
NAME/KEY: Artificial
LOCATION: 1-248
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TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                          OTHER INFORMATION: sfv sequence derived from MAE11
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                    NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                  NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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Jardieu, Paula M.
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Pred. No. 2.6e-54;
                                                                                                                                        Mismatches
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PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 23
LENGTH: 248
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Sequence 23, App. --
Sequence 23, App. --
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APPLICANT: Henry
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 08/887,352 PRIOR FILING DATE: 1997-07-02
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                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
                                                                                                                                                                                                                                                                                                                 STREET: 1 L...
STREET: 1 L...
CITY: South San Fra
CTATE: California
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TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
TITLE OF INVENTION: Improving Polypeptides
                                   ATTORNEY/AGENT INFORMATION:
NAME: SVODOda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1
                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
TELECOMMUNICATION INFORMATION: TELEPHONE: 650/225-1489
                                                                                                                                                                           CURRENT APPLICATION DATA:
                                                                                                                 APPLICATION NUMBER: FILING DATE: 03-Ju CLASSIFICATION: 53
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Jardieu, Paula M.
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                                                                                                                               03-Jul-1997
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Pred. No. 2.6e-54;
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GENERAL INFORMATION:
                                                                       NUMBER OF SEQ
SEQ ID NO 2
                                                                                                                                                                                                        Sequence 2, Application US/09282505A Patent No. 6194551
GENERAL INFORMATION:
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CURRENT APPLICATION NUMBER: US/09/109,207C
CURRENT FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
                                                                                                             CURRENT APPLICATION NUMBER: US/09/282,505A
CURRENT FILING DATE: 1999-03-31
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                  TITLE OF INVENTION: Polypeptide Variants FILE REFERENCE: P1266R1
                                                                                                                                                                                        APPLICANT: Esohe Ekinaduese Idusogie et al.
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NAME/KEY: Artificial
LOCATION: 1-451
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ORGANISM: Artificial
ORGANISM: Artificial Sequence FEATURE:
                                   TYPE: PRT
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                                                       LENGTH: 451
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Pred. No. 5.1e-54;
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                                                                                                                                                                                                                                                                                     Sequence 18, Application US/09296005
Patent No. 6290957
GENERAL INFORMATION:
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CURRENT FILING DATE: 1998-04-02
NUMBER OF SEQ ID NOS: 2
SEQ ID NO 2
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OTHER INFORMATION: Sequence is completely synthesized
Patent No. 6194551
                                                                                                   NUMBER OF SEQ ID NOS:
SEQ ID NO 18
LENGTH: 451
TYPE: PRT
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Patent No. 6242195
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Best Local Similarity
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FEATURE:
NAME/KEY: Artificial
LOCATION: 1-451
OTHER INFORMATION: Heavy chain
-09-296-005-18
                                                                                                                                                                   APPLICANT: Henry B. Lowman, Leonard G. Pro
TITLE OF INVENTION: Improved Anti-IgE Ant:
FILE REFERENCE: PIL23C1T
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
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ORGANISM: Artificial Sequence
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                                                                                 ORGANISM: Artificial
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Pred. No. 5.1e-54;
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Pred. No. 5.1e-54;
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US-09-680-145-2
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FEATURE:
NAME/KEY: Artificial Sequence
LOCATION: 1-451
OTHER INFORMATION: Sequence is completely
Patent No. 6528624
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APPLICANT: Esohe Ekinaduese Idusogie et al.
                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/09680145 Patent No. 6538124
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Best Local &
                                                                                                                                                              SEQ ID NO 2
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Best Local :
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Patent No. 6528624
                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/680,145
CURRENT FILLING DATE: 2000-10-03
PRIOR APPLICATION NUMBER: 09/282,505
PRIOR FILING DATE: 1999-03-13
NUMBER OF SEQ ID NOS: 2
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                               OTHER INFORMATION: Sequence is completely synthesized
                                                  NAME/KEY: Artificial Sequence LOCATION: 1-451
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                                                                                                    ORGANISM: Artificial Sequence
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Pred. No. 5.1e-54;
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US-09-920-171-18
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Best Local
                                                                       SEQ ID NO 18
LENGTH: 451
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Patent No. 6723833
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Best Local Similarity
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FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123R1
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                                                                                                            NUMBER OF SEQ ID NOS: 44
                                                                                                                              PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial
                 FEATURE:
                                   ORGANISM: Artificial
                                                         TYPE: PRT
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100.0%; Pred. No. 5.1e-54;
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Method of Improving
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APPLICANT: Lowman, Henry B.
APPLICANT: Dardieu, Faula M.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
ITITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: p1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR PILING DATE: 1999-04-21
PRIOR PILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 2001-08-01
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; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-18
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US-09-483-588-2
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Patent No. 676188
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Best Local Similarity
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Best Local Similarity
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CURRENT FILLING DATE: 2000-01-14
EARLIER APPLICATION NUMBER: US 60/116,023
EARLIER FILING DATE: 1999-01-15
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TITLE OF INVENTION: Polyp
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Pred. No. 5.1e-54;
); Mismatches 0;
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; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-18

Query Match
Best Local Similarity 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY 60
Db 1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY 60
Db 1 EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY 60
Qy 61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
Db 61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
Search completed: June 3, 2005, 12:45:37
Job time: 23 secs
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3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
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Aab76937	Aaw95648	Adq90734	Adn07035	Adn07037	Aab76950	Aab76948	Aab47088	Aay85201		Aaw95659	Adn07043	Aab76956	Aaw95667	Adn07046	Aab76959	Aaw95670	Adn07067	Adn07041	Aab76954
Variable	Mus muscu	Anti-IgE	Anti-IgB	Anti-IgE	Full leng	Full leng	Anti-IgE	Light cha	Mus muscu	Mus muscu	Anti-IgE	SFv fragm	Mus muscu	Anti-IgE	Variable	Mus muscu	F(ab)-pha	Anti-IgE	Variable

ALIGNMENTS

ARMSULT 1 ARMSULT 1 ARMSULT 1 ARMSULT 1 ARMSULT 1 ID ARMSULT 1 ARM Variable heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria. Mus musculus anti-IgE e27 08-JUN-1999 AAW95656; AAW95656 standard; protein; 02-JUL-1997; Mus musculus. 14-JAN-1999 30-JUN-1998; WO9901556-A2 (GETH) GENENTECH INC (first entry) 97US-00887352 98WO-US013410 variable heavy chain. 114 ₿

Improving affinity of polypeptides, particularly anti-IgE antibodies - identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity against the substituting alternative residues and screening for affinity against the substitution of the substit against the γď

WPI; 1999-106057/09.

Lowman

HB,

Presta LG,

Jardieu

PM,

Lowe Ġ

Disclosure; Page 90-91; 129pp; English.

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AAB74212 ABU62798 ADF69598 ADF29039 ADN07039 AAW95657

Aab74212 Abu62798 Adf69598 Adf29039 Adn07039 Aaw95657 Aab76946 Adn07033

Human ant Anti-IgE Anti-IgE Mus muscu

Variable Anti-IgE Mus muscu

AAB76952 AAB07473

Aay5003

Anti-IgE
Mus muscu
Human E27
Amino aci
Full leng
E27 anti-

Aaw95668

Anti-IgE Mus muscu SFv fragm

Adn07044

AAB76946 ADN07033

The sequence is that of the variable heavy chain of e27. It was used as part of a method to improve the affinity of anti-IgB antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and diagnosis

Sequence 114 AA;

Length 114;

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Best Local Similarity
                                                                                    substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic; antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating 1g2-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences ABB76936-ABB76960 represent fragments of anti-IgE antibodies of the invention.
                                                                                                                                                                                                                                                                              This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
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                                                 AAB76960 represent fragments of anti-IgE antibodies of the invention. Polynucleotide sequence AAP69253 represents an expression plasmid used in the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 2; 87pp; English.
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                                 affinity improved anti-IgE
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Query Match

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Length 114

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EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY 60

Sequence 114

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                                                                                                                                                                                              The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                New composition of an improved anti-IgE antibody or IgE binding fragment, useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma, conjunctivitis, eczema, urticaria or food allergies.
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                                                                                                             Sequence 114 AA;
                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; SEQ ID NO 11; 89pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lowman HB,
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30-JUN-1998;
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                                                                                                                                                                      is an anti-IgE antibody variable heavy chain domain
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98US-00109207
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RESULT 4
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                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence is that of the variable heavy chain Fab fragment of e27, was used as part of a method to improve the affinity of anti-IgB antibodies such as e26 and e27. The e26 and e27 antibodies can be use for reducing or preventing IgB mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgB such hypersensitivity, atopic allergy as sthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. antibodies can also be used for affinity purification, detection and
                                                                                                                                                                                                                                                                                                                                                            Sequence 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 101-102; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Improving affinity of polypeptides, particularly anti-IgE antibodies - identifying aspartyl residues which undergo isomerisation and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-106057/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-JUN-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus anti-IgE e27 variable heavy chain Fab fragment.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eczema; anaphylactic shock; urticaria; heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Variable; IgE;
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NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                   NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                   EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSMNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                            EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
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                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                      100.0%; Score 623; DB 2;
100.0%; Pred. No. 1.1e-50;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jardieu PM,
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                                                                                                                                                                                                                                                                                                  Length 229;
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RESULT 5 AAB76955

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Matches 114
                                                                                                                                                                                                                                                                                                                          This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic; antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936-
                                                                                                                                                                                                                                                     AAB76960 represent fragments of anti-IgE antibodies of the invention. Polymuclectide sequence AAF69253 represents an expression plasmid used in the course of the invention, and oligonuclectides AAF69274 - AAF69271 are used in the generation of affinity improved anti-IgE antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
                                                                                                                                                                                                                    Sequence 229 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              maturation with phage display.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-JUL-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Variable heavy chain Fab fragment of e27 SEQ ID
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                                                                                                                                             114; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3; Fig 13; 87pp; English.
                                    63
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                                                                                                                                                                Similarity
NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                           EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                      EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
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                                                                                                                                                             100.0%;
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                                                                                                                                                             Score 623; DB 4;
Pred. No. 1.1e-50;
                                                                                                                                             Mismatches
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RESULT 7
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergy; rhinitie; conjunctivitis; eczema; urticaria; food allergy; variable heavy chain; VH.
    Mus musculus
                              Variable heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine; production; hypersensitivity; allerger; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria; F(ab)'2 fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
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30-JUN-1998;
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                                                                                                      Mus musculus
                                                                                                                                  08-JUN-1999
                                                                                                                                                               AAW95671;
                                                                                                                                                                                         AAW95671 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 229
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                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                      anti-IgE e27 variable heavy chain F(ab)'2
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98US-00109207.
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Pred. No. 1.1e-50;
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RESULT 8
AAB76960
ID AAB7
XX AAB7
AC AAB7
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XX Anti
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XX Coni
XX Synt
XX US61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence is that of the variable heavy chain F(ab)'2 fragment of e27. It was used as part of a method to improve the affinity of anti-1gE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and
                                                                                                                                                                                                                                                                                                                                   Antibody; antiasthmatic; antiallergic; ophthalmc antiinflammatory; Ig E; immunoglobulin E; asthma conjunctivitis; eczema; urticaria; food allergy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Improving affinity of polypeptides, particularly anti-IgE ant identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity
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                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                         Variable light
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                             GENENTECH INC
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                                                                                                                              98US-00109207.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        to a process comprising, a) identifying aspartyl residues prone to cisomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) c substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic; antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as ashma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936-DAB76960 represent fragments of anti-IgE antibodies of the invention. Polynucleotide sequence AAF69253 represents an expression plasmid used in the course of the invention, and oligonucleotides AAF69271 are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This invention relates to a nucleotide sequence encoding an antibody v improved anti-IgE antibody activity. The antibody has improved action
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                                                                                         02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                20-APR-2004.
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                                                                                                                                                                                                                                                                                                                                                                    Unidentified
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                                   (GETH ) GENENTECH INC
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heavy chai
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain (VH) F(ab), 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to therapeutic compositions comprising anti-Igi antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated anaphylactic hypersensitivity and asthma, allergic rhinitis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      conjunctivitis, eczema, urticaria or
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                                                                                                                                                                                                                                                                                                                                                                                           02-ЛПС-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                               30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
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                                                                                                                                                                                                                                  WPI; 1999-106057/09
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9901556-A2
                                                                                                                                Improving affinity of polypeptides, particularly anti-IgE antibodies -
identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity against the
                                                                                                                                                                                                                                                                                                                                          (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    114;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         233 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 26; 89pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                                                    Presta LG,
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                                                                                                                                                                                                                                                                                      Jardieu
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Pred. No. 1.2e-50;
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                                                                                                                                                                                                                                                                                      Lowe
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Disclosure;

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Best Local S
Matches 114
This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic; antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological; antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    maturation with phage display.
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ilarity 100.0%;
Conservative 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14; 87pp; English.
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Matches Query Match

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
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Best Local Simi
Matches 114;
                                      The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated wi anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present
                                                                                                                                                                   New composition of an improved anti-IgE antibody or IgE binding fragment, useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma, conjunctivitis, eczema, urticaria or food allergies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in specific cell, tissues or serum. Amino acid sequences AAB76936-AAB76960 represent fragments of anti-IgE antibodies of the inventipolynucleotide sequence AAF69253 represents an expression plasmid the course of the invention, and oligonucleotides AAF69254 - AAF69
Sequence
                                                                                                                                          Claim 8; SEQ ID NO 23; 89pp; English
                                                                                                                                                                                                                                                                                                                  02-JUL-1997;
30-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                           17-NOV-2000; 2000US-00716028
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                                                                                                                                                                                                                                                            Lowman HB,
                                                                                                                                                                                                                                                                                                                                                                                                                  US6723833-B1.
                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in the generation of affinity improved anti-IgE antibodies
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 248 AA;
                          is an anti-IgE antibody sFv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sfv fragment.
                                                                                                                                                                                                                                                            Jardieu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 623; DB 4;
Pred. No. 1.2e-50;
                                                                                                                                                                                                                                                           PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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                          fragment.
                                                                                                                                                                                                                                                            Lowe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      248;
                                                                    associated with
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RESULT 13
AAW95663
ID AAW95
XX AAW95
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XX Heavy
XW Product
XW Product
XW ASThm
XX AW990
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RESULT 14
AAY50031
ID AAY50
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Best Local Sim
Matches 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence is that of the full length heavy chain of e27. It was used as part of a method to improve the affinity of anti-IgE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a mammal. They can be used for treating a disorder mediated by IgE such as hypersensitivity, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Improving affinity of polypeptides, particularly anti-IgE antibodies - identifying aspartyl residues which undergo isomerisation and substituting alternative residues and screening for affinity against the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria.
   AAY50031 standard; protein; 451 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 97-99; 129pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW95663 standard; protein; 451 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 451 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lowman HB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                       62
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                                                                                                                                                                                                                                                                                                                                         μ
                                                                                                                                                                                                              NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                               EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NPSVKGRITISRDDSKNTFYLOMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Presta LG,
                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 623; DB 2; 100.0%; Pred. No. 2.4e-50; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jardieu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lowe
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 451;
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CC protocol. The low affinity receptor binding assay uses E27 and a CC recombinant chimeric form of IgE, consisting of a human IgE FC region and CC recombinant chimeric form of IgE, consisting of a human IgE FC region and CC recombinant chimeric FC Roscular endothelial growth factor)
CC antibody, which binds two VEGF molecules per mole of anti-VEGF chimeric CC IgE. When recombinant human VEGF is added at at 2:1 molar ratio to the CC IgE E27 hexamer complexes, the hexamers are linked into larger complexes wis IgE Fab:VEGF interactions. The E27 component of this complex binds to the FC-gamma-II, FC-gamma-IIb and FC-gamma-III alpha subunits to permit
                                                                                                                                             Matches
                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               conditions needing treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antibody variants useful in receptor binding assays and in therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-APR-1998;
15-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEGF; chimeric; IgG; assay; Fc gamma receptor; low affinity; hex complex; cross-linked; enzyme-linked immunosorbent assay; ELISA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JAN-2000
                                                                                                                                                                                                                                                         detection via ELISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-620197/53
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            heavy chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human E27 anti-IgE antibody heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Idusogie EE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunoglobulin E; IgE; antibody; vascular endothelial growth factor;
VEGF; chimeric; IgG; assay; Fc gamma receptor; low affinity; hexamer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GETH ) GENENTECH INC
                                                                                                                                             114; Conservative
                                                                                                                                                                 Similarity
                   NPSVXGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                            EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                      451 AA;
NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                     EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fig 4B; 69pp;
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99US-0116100P.
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                                                                                                                                                         100.0%;
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                                                                                                                                                             Score 623; DB 2;
Pred. No. 2.4e-50;
                                                                                                                                             Mismatches
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                                                                                                                                                                              Length 451;
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114
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AAB07473 ID AAB XX

AAB07473

standard; protein; 451

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RESULT 15

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RESULT 16
AAB76952
ID AAB76
XX AAB76
AC AAB76
XX AAB76
XX AAB76
XX AAT11
XX AAT11
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence represents the E27 and anti-IgE antibody heavy chain. The protein is used to produce Fc region-containing polypeptides that have altered effector function as a consequence of one or more amino acid modifications in the Fc region. The variant polypeptides are useful for treating cancer, allergic conditions such as asthma (with an anti-IgE antibody), and IFA-1-mediated disorders. Where the polypeptide binds the HER2 receptor, the disorder preferably is HER2-expressing cancer, e.g. a benign or malignant tumour characterized by overexpression of the HER2
           Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         receptor. Such cancers include breast cancer, squamous cell cancer, small -cell lung cancer, non-small cell lung cancer, gattrointestinal cancer, pancreatic cancer, glioblastoma, cervical cancer, ovarian cancer, bladder cancer, hepatoma, colon cancer, colorectal cancer, endometrial carcinoma, salivary gland carcinoma, kidney cancer, liver cancer, prostate cancer, vulval cancer, thyroid cancer, hepatic carcinoma and various types of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              anti-IgE antibody; heavy chain; Fc region; effector function; cancer; allergy; asthma; LFA-1-mediated disorder; tumour; cancer.
                                           Full length heavy chain sequence of e27 SEQ ID 18.
                                                                                   17-APR-2001
                                                                                                                                                        AAB76952 standard; protein; 451 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-476035/41
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino acid sequence of E27 and anti-IgE antibody heavy chain
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                                                                                                                        AAB76952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            head and neck cancer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fc region-containing polypeptides that have altered effector function to one or more amino acid modifications in the Fc region, useful in treatment of cancer and allergic conditions such as asthma.
                                                                                                                                                                                                                                                                                                                                                                                                 114;
                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                  13
                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                  NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                       NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                                                                                                                                                                                                                                                                        EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                               EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                  (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 623; DB 3; 100.0%; Pred. No. 2.4e-50; A. Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 451;
                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                               0;
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antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.

Synthetic.

US6172213-B1.

09-JAN-2001.

30-JUN-1998; 98US-00109207.

02-JUL-1997; 97US-0051554P.

(GETH) GENENTECH INC.

Lowman HB, Presta LG, Jardieu PM, Lowe J;

WPI; 2001-122353/13.

New nucleic acid encoding anti-immunoglobulin E antibody with improved immunoglobulin E produced by substituting aspartyl residues in unimproved immunoglobulin E produced by substituting aspartyl residues by affinity maturation with phage display.

Claim 4; Fig 12; 87pp; English.
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This invention relates to a nucleotide sequence encoding an antibody with CC improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) CC substituting alternative residues to create candidate molecules, and c) CC selecting those candidate molecules which display affinity against the CC target molecule. Use of the antibody results in antiasthmatic; CC artiallergic; ophthalmological, dermatological and antiinflammatory CC activity. The antibodies are useful for treating IgE-mediated disorders Such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and CC food allergies. The mutant antibodies produced by the above mentioned CC nucleic acids may also be used as affinity purification agents and in CC diagnostic assays for detecting the expression of an antigen of interest CC in specific cell, tissues or serum. Amino acid sequences AAB76936-CC AAB76960 represent fragments of anti-IgE antibodies of the invention. CC polymucleotide sequence AAB769253 represents an expression plasmid used in CC the course of the invention, and oligonucleotides AAB69271 are used in the generation of affinity improved anti-IgE antibodies

Sequence 451 AA;

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                                                                                                     Local
 61
           61 NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                                                 1 EVOLVESGGGLVOPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                     Similarity
NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG 114
                                          100.0%;
                                                                                        0;
                                                                                                    Score 623; DB 4;
Pred. No. 2.4e-50;
                                                                                         Mismatches
                                                                                                              DB 4;
                                                                                                              Length 451;
                                                                                         0
                                                                                         Gaps
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RESULT 18
ABU62798
ID ABU62
XX ABU627
XX ABU62
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XX ARTib
E27 a
XX ARTib
KW ARTib
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XX Synth
XX US653
XX US653
XX O3-OC
PF 03-OC
PF 03-OC
PR 02-AF
PR 11-MB
XX PA (GETF
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Best Local S
Matches 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to a variant of an antibody having a human immunoglobulin (1g)G Fc region, with an amino acid substitution. The mutant retains the ability to bind antigen. The invention is useful for determining the presence of a protein of interest, by exposing the sample suspected of containing the protein to the antibody and determining the binding of it to the sample. The antibody is also useful for treating cancer, allergic conditions including asthma, LFA-mediated disorders, autoimmune disorders and vasculitis
                                        02-APR-1998;
31-MAR-1999;
                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                   E27 anti-immunoglobulin E antibody heavy chain.
                                                                                                                                                                                                                                                                11-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 4; 30pp; English.
                                                                                03-OCT-2000;
                                                                                                           25-MAR-2003
                                                                                                                                    US6538124-B1
                                                                                                                                                                                             anti-immunoglobulin E.
                                                                                                                                                                                                         Antibody; human immunoglobulin
                                                                                                                                                                                                                                                                                                                   ABU62798 standard; protein; 451 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fc region,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-217935/22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27-FEB-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           such as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US6194551-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unidentified
                (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Idusogie EE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polypeptide variant useful for treating cancers, allergic diseases as asthma and autoimmune diseases, comprises human immunoglobulin-G gion, retains the ability to bind antigen and does not activate
                                                                                                                                                                                                                                                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                  μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                                                                                                                         NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                           NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                            EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA,
                                                                                 2000US-00680145
                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presta LG,
                                        98US-0080447P.
99US-00282505.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0080447P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00282505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 623; DB 4; 100.0%; Pred. No. 2.4e-50; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mulkerrin MG
                                                                                                                                                                                                          G; autoimmune disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunoglobulin-G
not activate
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                   114
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                                                         of e.g.
related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibody variant that binds antigen or an immunoadhesin variant that binds a ligand or receptor. The antibody or immunoadhesin variant comprises a human Immunoglobulin G Fc region. The nucleic acid is us for preparing a composition for treating a disorder e.g. autoimmune disorder. The present sequence represents the amino acid sequence of E27 anti-immunoglobulin E antibody heavy chain
                                                                   New variant immunoglobulin Fc peptide, useful for diagnosis and treatment of e.g. cancer, has mutation that reduces activation of complement, also
                                                                                                                                                                             02-APR-1998;
31-MAR-1999;
                                                                                                                                                                                                                                         04-SEP-2003
                                                                                                                                                                                                                                                                                                                          heavy chain; human; immunoglobulin; IgG; autoimmune disease; complement-dependent
                                                                                                                                                                                                                                                                                                                                                                                      12-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                             ADF69598;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid encodes an antibody variant that binds antigen immunoadhesin variant that binds a ligand or receptor, useful for
                                   Disclosure; SEQ ID NO
                                                                                                       WPI; 2003-898108/82
                                                                                                                                                                                                                  26-FEB-2001; 2001US-00792938
                                                                                                                                                                                                                                                               US2003166868-A1
                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                               anti-IgE; antibody;
                                                                                                                                                                                                                                                                                                                                                             Human anti-IgE antibody E27 heavy chain
                                                                                                                                                                                                                                                                                                                                                                                                                                     ADF69598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     preparing a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Fig 4B;
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                                                                                                                                                      (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
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                                                         nucleic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EVQLVESGGGLVQPGGSLRLSCAVSGYSITSGYSWNWIRQAPGKGLEWVASIKYSGETKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                     standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NPSVKGRITISRDDSKNTFYLQMNSLRAEDTAVYYCARGSHYFGHWHFAVWGQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; ilarity 100.0%; Conservative 0
                                                                                                                               Shields RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      composition
                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Presta
                                                                                                                                                                             98US-0080447P.
99US-00282505.
                                                                                                                                                                                                                                                                                                                                                                                                                                    protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ដុ
                                   2; 31pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           to a new isolated nucleic acid that encodes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for treating a disorder e.g., autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mulkerrin
                                                                                                                                                                                                                                                                                                                                                                                                                                     451
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 623; I
Pred. No. 2.4
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e 623; LL NO. 2.4e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ត្ត
                                                                                                                                                                                                                                                                                                                          Fc region; cancer; allergy;
cytotoxicity reduction;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 451;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        is useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        114
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The invention relates immunoglobulin (Ig) G

to a variant polypeptide comprising FC region. The variant polypeptides

are used

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RESULT 20
ADF29039
ADF29039
XX ADF29
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Best Local S
Matches 114
                                                                                                     The invention relates to a variant of a parent antibody or immunoadhesin polypeptide comprising a human IgG1, IgG2 or IgG3 Fc region, where the variant has a better affinity for human Clq than the parent polypeptide and comprises an amino acid substitution in the IgG Fc region, and where the antibody variant binds an antigen and the immunoadhesin variant binds a ligand or receptor. The variant is useful for preparing a composition for treating disorders, e.g., cancer or autoimmune disorders or as an affinity purification agent. The present sequence represents the anti-IgE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diagnostically, based on their binding to a protein analyte or therapeutically, e.g. in cases of cancer, allergy and autoimmune diseases. The variant polypeptides bind to Fc receptors but do not activate complement, so complement-dependent cytotoxicity is reduced or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New variant of a parent antibody or immunoadhesin polypeptide, comprising a human IgG1, IgG2 or IgG3 Fc region, useful for preparing a composition for treating disorders, e.g., cancer or as an affinity purification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JAN-1999;
31-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antibody; immunoadhesin; variant; human IgG1 Fc region;
human IgG2 Fc region; human IgG3 Fc region; human Clq; cancer;
autoimmune disorder; affinity purification; anti-IgE; immunoglobulin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 abolished. The human anti-IgE
                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 2; 39pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-APR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2003158389-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Anti-IgE antibody E27-heavy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADF29039 standard; protein; 451 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GETH )
                                                                        treating disorders, e.g., car
inity purification agent. The
ibody E27-heavy chain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2003-778020/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  heavy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0080447P.
99US-0116100P.
99US-00282846.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
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Pd
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Pred.
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No. 2.4e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>M</u>
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Best Local Simi
Matches 114;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                      The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain domain (VH).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New composition of an improved anti-IgE antibody or IgE binding useful for treating IgE-mediated diseases, e.g. atopic allergy, conjunctivitis, eczema, urticaria or food allergies.
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30-JUN-1998;
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Pred. No. 2.4e-50;
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CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30 PRIOR APPLICATION NUMBER: US 60/051,554 PRIOR FILING DATE: 1997-07-03 NUMBER OF SEQ ID NOS: 44 SEQ ID NO 8 LENGTH: 114

TYPE: PRT ORGANISM: Artificial

FEATURE:

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US-09-716-028-23	US-09-716-028-22	US-09-920-171-23	US-09-920-171-22	US-09-296-005-23	US-09-296-005-22	US-09-109-207C-23	US-09-109-207C-22	US-08-887-352B-23	US-08-887-352B-22	US-09-483-588-1	US-09-680-145-1	US-09-282-846-1	US-09-054-255-1	US-09-282-505-1	US-08-887-352B-8	US-10-113-996-24	US-10-113-996-19
Sequence 2	Sequence 2	Sequence 2	Sequence 2	Sequence 1	Sequence 8,	Sequence 2	Sequence 1										
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Appl	Appl	Appl	Appl	, Appl	App1	Appl	App1	App1	App1	ppli	ildď)ppli	ppli	ildď	Appli	App1	Appl

ALIGNMENTS

RESULT 1 US-09-109-207C-8

Sequence 8, Application US/09109207C Patent No. 6172213

GENERAL INFORMATION:

APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides FILE REFERENCE: P1123R1

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-109-207C-8
                                                                                                                                                                                                             RESULT 2
US-09-296-005-8
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                            GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Pa
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C1r
CURRENT PILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
                                                                                                                                                                          Sequence 8, Application US/09296005 Patent No. 6290957
SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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                NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
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Pred. No. 1.1e-49;
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es and
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                                                                                                                       M. Jardieu, John Lowe
Method of Improving Polypeptides
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; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Light chain sequence derived
US-09-296-005-8
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US-09-716-028-8
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US-09-920-171-8
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GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Pa
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
                                                                                                                                                              Sequence 8, Application US/09716028 Patent No. 6723833
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LENGTH: 114
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Best Local Similarity
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CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: Light chain sequence derived from MAB11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
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Local Similarity 100.0%;
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o. 6682735
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Pred. No. 1.1e-49;
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                                                                                                    Paula M. Jardieu, John Low
es and Method of Improving
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                                                                                                                       John Lowe
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Sequence 8, Application US/10113996
Patent No. 6761889
GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Eresta, Leonard G.
APPLICANT: Bratieu, Paula M.
APPLICANT: Lowe, John
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; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-716-028-8
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US-10-113-996-8
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SEQ ID NO 8
LENGTH: 114
TYPE: PRT
ORGANISM: Artificial Sequence
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PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 8
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Best Local Similarity
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Improved Anti-IgE Antibodies FILE REFERENCE: P1123C3US CURRENT PEPLICATION NUMBER: US/10/113,996 CURRENT FILING DATE: 2002-04-01
                                                                                                                                                                                                                                                                                                                                                                  CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 09/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
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                   61 GVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQSHEDPYTFGQGTKVEIKRTV 114
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                                                                                           1 DIQLTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQQKPGKAPKLLIYAASYLES
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 GVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQSHEDPYTFGQGTKVEIKRTV
                                                                      DIQLTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQQKPGKAPKLLIYAASYLES
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Pred. No. 1.1e-49;
); Mismatches 0;
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Pred. No. 1.1e-49
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US-08-887-352B-15

Sequence 15, Application Patent No. 5994511 GENERAL INFORMATION: APPLICANT: Henry B. I

US/08887352B

Leonard

<u>۾</u>

Presta,

Paula

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Jardieu,

John Lowe

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US-08-887-352B-17
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Best Local :
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                                                    ZIP: 94000
COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: US/08/887,352B
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LENGTH: 218 amino acids
                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Improved Anti-IGE Anti-TITLE OF INVENTION: Improving Polypeptides NUMBER OF SEQUENCES: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: SVODOda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                   ATTORNEY/AGENT INFORMATION:
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FILING DATE: 03-Jul-1997
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: WinPatin (Genentech)
                                    CLASSIFICATION:
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Svoboda, Craig G.
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Pred. No. 2.4e-49;
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                                                                                                                                  Query Match
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INFORMATION FOR SEQ ID NO: 19:
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APPLICANT: Henry
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                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/225-1489
                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/887,
FILING DATE: 03-Jul-1997
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MEDIUM TYPE: 3.5 inch, 1.44 Mb |
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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LENGTH: 218 amino acids
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TELEPHONE: 650/225-1489
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Local Similarity 100.0%;
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Amino Acid
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GVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQSHEDPYTFGQGTKVEIKRTV 114
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Improved Anti-IgE Antibodies and Method of
Improving Polypeptides
                                                                                                                    100.0%;
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100.0%; Pred. No. 2.4e-49;
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Pred. No. 2.4e-49;
Mismatches 0;
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                        PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 15
LENGTH: 218
TYPEP
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                                                                                                                                                                                                                                              Sequence 15, Application US/09109207C Patent No. 6172213
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Best Local Similarity
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                                                                                                                                CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30
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TITLE OF INVENTION:
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                                                                                                                                                                        FILE REFERENCE:
TYPE: PRT
ORGANISM: Artificial
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinFatin (Genentech)
CURRENT APPLICATION DATA:
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NAME: Svoboda, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P1:
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TELEPHONE: 650/225-1489
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CURRENT APPLICATION NUMBER: US/09/109,207C CURRENT FILING DATE: 1998-06-30 PRIOR APPLICATION NUMBER: US 60/051,554 PRIOR FILING DATE: 1997-07-03 NUMBER OF SEQ ID NOS: 44 SEQ ID NO 19 LENGTH: 218
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SEQ ID NO 17
LENGTH: 218
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APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe APPLICANT: Improved Anti-IgE Antibodies and Method of Improving Potentials of Interval of Improving Potentials of Interval of Interval of Improving Potentials of Interval of 
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Best Local Similarity
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                                                                                                                                                                                                                                                  APPLICANT: Henry B.
TITLE OF INVENTION:
FILE REFERENCE: P112
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TYPE: PRT
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NAME/KEY: Artificial
LOCATION: 1-218
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OTHER INFORMATION: Light chain sequence derived from MAE11
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No. 2.4e-49;
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Pred. No. 2.4e-49;
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ORGANISM: Artificial

TYPE: PRT

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RESULT 14

US-09-296-005-15

Sequence 15, Application US/09296005

Patent No. 629057

GENERAL INFORMATION:

APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M.

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Met

FILE REFERENCE: P1123C1r

COURRENT APPLICATION UNMBER: US/09/296,005

CURRENT APPLICATION NUMBER: US/09/296,005

EARLIER APPLICATION NUMBER: US/08/887,352

EARLIER APPLICATION NUMBER: US/08/887,352
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US-09-109-207C-24
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Best Local Similarity 100.0%;
Matches 114; Conservative 0
                                                                                             NUMBER OF SEQ ID NOS:
SEQ ID NO 15
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NAME/KEY: Artificial
LOCATION: 1-218
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                                   ORGANISM: Artificial
                                                          TYPE: PRT
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NAME/KEY: Artificial
                                                                             ENGTH:
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Pred. No. 2.4e-49;
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; OTHER INFORMATION: Light chain sequence derived from MAE11
US-09-296-005-15
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US-09-296-005-17
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                                                                                            SEQ ID NO 19
LENGTH: 218
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GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1999-04-21
EARLIER APPLICATION NUMBER: US 08/887,352
EARLIER FILING DATE: 1997-07-02
                                                                                                                                                                                                                            APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of It FILE REFERENCE: P1123C1r
                                                                                                                                  NUMBER OF SEQ ID NOS: 26
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NAME/KEY: Artificial
LOCATION: 1-218
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ORGANISM: Artificial Sequence
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-218
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                                                      ORGANISM: Artificial
                                                                            TYPE: PRT
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Pred. No. 2.4e-49;
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Pred. No. 2.4e-49;
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Method of Improving Polypeptides
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                                                                                                                  APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies (as FILE REFERENCE: P1123C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT ETLING DATE: 2001-08-01
PRIOR APPLICATION WHERE: US 08/887,352
PRIOR FILING DATE: 1997-07-02
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US-09-920-171-15
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; SEQ ID NO 15
LENGTH: 218
TYPE: PRT
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Patent No. 6230957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123C1r
CURRENT APPLICATION NUMBER: US/09/296,005
CURRENT FILING DATE: 1997-04-21
EARLIER APPLICATION UNBER: US/08/887,352
EARLIER FILING DATE: 1997-07-02
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Best Local Similarity
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Best Local Similarity
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LENGTH: 218
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                                                                                                                                                                                                                                                                                                                                          Patent No. 66827
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                                                                                PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
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                                                             NUMBER OF SEQ ID NOS:
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ORGANISM: Artificial
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                                                                                                                                                                                                                                                                                                                                                          Application US/09920171
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RESULT 20
US-09-920-171-19
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US-09-920-171-17
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                                                                                                                                                                                                                                Sequence 19, Application US/09920171 Patent No. 6682735 GENERAL INFORMATION:
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SEQ ID NO 17
LENGTH: 218
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APPLICANT: Lowman, Henry B.
APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
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Best Local Similarity
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CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR PILING DATE: 1997-07-02
PRIOR PILING DATE: 1997-07-02
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
FILE REFERENCE: PIL22C2US
CURRENT APPLICATION NUMBER: US/09/920,171
CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR APPLICATION NUMBER: US 09/296,005
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ORGANISM: Artificial Sequence
FEATURE:
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Jardieu, Paula M.
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Pred. No. 2.4e-49;
; Mismatches 0;
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Pred. No. 2.4e-49;
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RESULT 22
US-09-716-028-15
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GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 24
LENGTH: 218
TYPE: PRT
ORGANISM: Artificial Sequence
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NUMBER OF SEQ ID NOS: 44
SEQ ID NO 19
LENGTH: 218
                                                                                                                                           Sequence 15, Application US/09716028 Patent No. 6723833
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Best Local Similarity
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CURRENT FILING DATE: 2001-08-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
NUMBER OF SEQ ID NOS: 44
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C2US
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Pred. No. 2.4e-49;
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RESULT 24
US-09-716-028-19
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US-09-716-028-17
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; LENGTH: 218
; TYPE: PRT
Sequence 19, Application US/
Patent No. 6733833
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman,
TITLE OF INVENTION: Improve
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APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-19B Antibodies and Method of Improving Polypeptides
FILE REFERENCE: P1123R1
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PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 15
LENGTH: 218
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PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
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CURRENT FILING DATE: 2000-11-17
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LOCATION: 1-218
OTHER INFORMATION: Light chain sequence
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ORGANISM: Artificial
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Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe Improved Anti-IgE Antibodies and Method of Improving Polypeptides
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Pred. No. 2.4e-49
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FILE REFERENCE: P1123R1

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RESULT 26
US-10-113-996-15
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             Sequence 15, Application US/10113996
Patent No. 6761889
GENERAL
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Best Local (
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SEQ ID NO 24
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Best Local Similarity
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LENGTH: 218
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CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/051,554
PRIOR FILING DATE: 1997-07-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: P1123R1
CURRENT APPLICATION NUMBER: US/09/716,028
CURRENT FILING DATE: 2000-11-17
PRIOR APPLICATION NUMBER: US 09/109,207
PRIOR FILING DATE: 1998-06-30
PRIOR FILING DATE: 1998-06-30
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TYPE: PRT
ORGANISM: Artificial
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NAME/KEY: Artificial
LOCATION: 1-218
OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
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Pred. No. 2.4e-49;
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Pred. No. 2.4e-49;
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Method of Improving Polypeptide
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TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR PILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
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CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR FILING DATE: 1999-04-21
PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
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SEQ ID NO 15
LENGTH: 218
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Patent No. 6761889
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Best Local Similarity
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Best Local Similarity
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
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                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Artificial Sequence
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Pred. No. 2.4e-49;
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Pred. No. 2.4e-49;
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GVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQSHEDPYTFGQGTKVEIKRTV 114

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GENERAL INFORMATION:
APPLICANT: Lowman, Henry B.
APPLICANT: Deresta, Leonard G.
APPLICANT: Presta, Leonard G.
APPLICANT: Lowe, John
ITILE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: p1123C3US
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR APPLICATION NUMBER: US 09/296,005
PRIOR APPLICATION NUMBER: US 09/20,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
NUMBER OF SEQ ID NOS: 44
IENGTH- 218
; OTHER INFORMATION: Light chain F(ab)'2 sequence derived from MAE11
US-10-113-996-24
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US-10-113-996-24
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US-10-113-996-19
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US-10-113-996-19
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APPLICANT: Presta, Leonard G.
APPLICANT: Jardieu, Paula M.
APPLICANT: Lowe, John
TITLE OF INVENTION: Improved Anti-IgE Antibodies
FILE REFERENCE: P1123C3US
CURRENT APPLICATION NUMBER: US/10/113,996
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR APPLICATION NUMBER: US 08/887,352
PRIOR FILING DATE: 1997-07-02
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SEQ ID NO 19
LENGTH: 218
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PRIOR FILING DATE: 1999-04-21
PRIOR APPLICATION NUMBER: US 09/920,171
PRIOR FILING DATE: 2001-08-01
                                                     TYPE: PRT ORGANISM: Artificial Sequence FEATURE:
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100.0%; Pred. No. 2.4e-49;
tive 0; Mismatches 0;
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